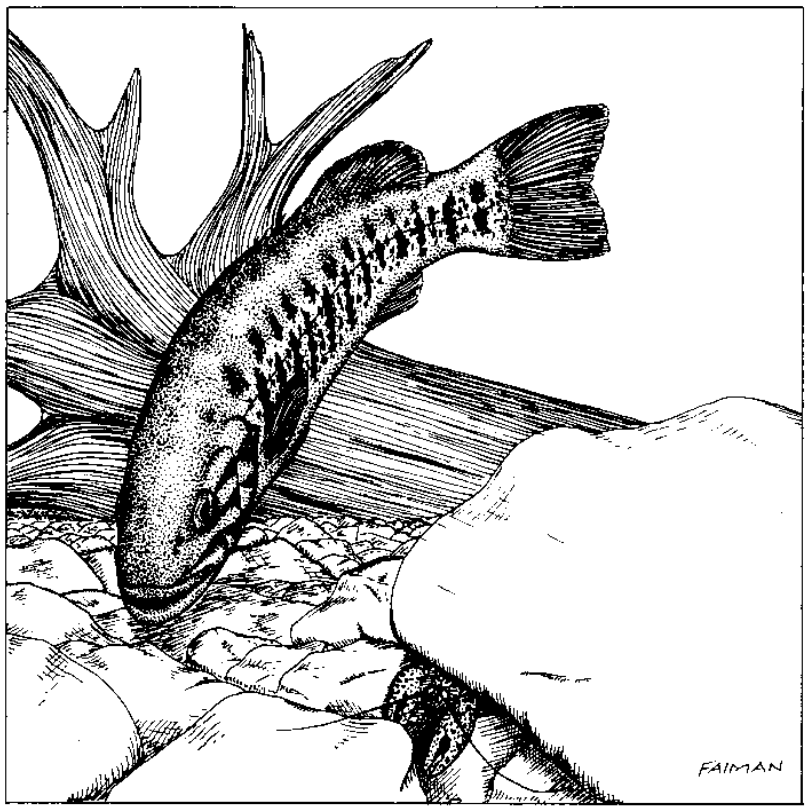
Smallmouth Bass White Paper Summary



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INTRODUCTION/BACKGROUND

In 1998, the Smallmouth Bass Work Group (SMBWG) reviewed results from previous Stream Black Bass Special Management Area (SBBSMA) evaluations and recommended a statewide effort to identify study and where appropriate, improve Missouri's best black bass streams through the use of special regulations. In December 1998, Fisheries Division adopted the *Smallmouth Bass Special Management in Missouri Streams* (White Paper), which called for biologists to evaluate 35 reaches on 33 candidate streams (Meneau 1998; Appendix 1). Candidate streams were chosen by Regional Fisheries and Protection staff after gaining input from MDC staff, prosecutors, judges, landowners and anglers.

Some streams (Courtois Creek, Bourbeuse River and Spring River) were evaluated just prior to creation of the White Paper and their smallmouth fisheries were determined to be functioning well under existing statewide regulations. Consequently, they were not included in the White Paper effort.

In addition to investigating smallmouth bass catch per hour (CPUE) data, biologists evaluated special management area potential of candidate streams using criteria similar to those developed in 1989, which included:

1. **Species composition.**
2. **Smallmouth bass growth rates.**
3. **Access (landowners, public).**
4. **Present use (including: level, fishing, recreational boating/canoeing).**
5. **Habitat suitability.**
6. **Support (including: anglers, landowners, Protection Division, judge/prosecutor).**
7. **Consideration of other species or management goals.**
8. **Diversity of opportunities, geographically.**

Most criteria, including numbers two through six and eight, were qualitatively-rated on a scale of one (poor) to five (excellent) by fisheries management biologists. Species composition (Criterion 1) consideration involved determining if smallmouth bass were either currently or historically the dominant black bass. Criterion seven considered the potential impacts of raising more and larger smallmouth bass with existing high-priority management of other aquatic target species (trout, species of special conservation concern, etc.). Smallmouth bass CPUE was assessed using catch per hour electrofishing survey data and were conducted according to the smallmouth bass standardized sampling guidelines (Turner et. al. 1991).

Regional differences allowed for flexibility in weighting certain criteria, sometimes ruling out streams prior to the selection process. Private landowner concerns or perceptions about stream use were considered stronger in some areas. Absence of public access was more of a concern on

larger streams (which would require boat/canoe use) than wadeable streams. Enforcement potential in some counties was considered more challenging where judges and prosecutors historically favor light punishment for fish and wildlife violations. Extensive habitat impacts (i.e., gravel mining) were more prevalent in smaller Ozark streams. In some situations, SBBSMA potential to raise more, larger smallmouth bass presented a potential negative impact to existing trout programs or species of special conservation concern through competition or predation.

Biologists were generally given three years to conduct evaluations (Appendix 1). However, difficulties inherent with stream sampling, such as water level fluctuations, difficulty in assessing use, staff levels, information available from previous sampling, length of reaches considered, available work time and number of candidate streams within each region made long-range scheduling tenuous.

Upon completion of each evaluation, biologists chose a course of action from the list approved by SMBWG, which included:

1. **No change. Current management is adequate or criteria could not be satisfied.**
2. **Produce more and larger smallmouth bass.**
   [Results from past studies suggest a doubling of smallmouth bass greater than 12 inches is probable.]
3. **Protect good populations where a threat seems imminent.**

White Paper candidate stream evaluations began in 1996. With the exception of the Pomme de Terre River, all were completed by 2007 -- eight years ahead of schedule. Pomme de Terre is being re-evaluated with completion expected in 2010. In addition, upper Big River (Iron and Washington counties) and lower Salt River (Ralls County) evaluations are underway, but were not part of the original effort.

RESULTS

Eight of 35 (23%) evaluations resulted in management decisions recommending adoption of special regulations including Big River (two extensions), Eleven Point River, Elk River, Joachim Creek, Mineral Fork, Osage Fork and Tenmile Creek (Table 1). All adopted the 15-inch minimum length limit and most implemented a daily limit of one regulation. Though most involved special regulations only for smallmouth bass, the Elk River SBBSMA included special regulation on all black bass with a daily limit of two. Inclusion of these eight stream sections from the White Paper effort increased the number of Missouri's SBBSMA's to twelve (Figure 1), equaling 358 miles of stream managed for more and larger smallmouth bass.

Table 1. Smallmouth bass White Paper additions to Missouri's Stream Black Bass Special Management Areas.

Stream	Smallmouth Bass Special Regulations
Big River (2 sections)	(15-inch MLL; 1/day); 95 miles
Eleven Point River	(15-inch MLL; 1/day); 50 miles
Elk River	(15-inch MLL; 2/day, all black bass); 22 miles
Joachim Creek	(15-inch MLL; 1/day); 18 miles
Mineral Fork	(15-inch MLL; 1/day); 14 miles
Osage Fork	(15-inch MLL; 1/day); 36 miles
Ten Mile Creek	(15-inch MLL; 1/day); 14 miles

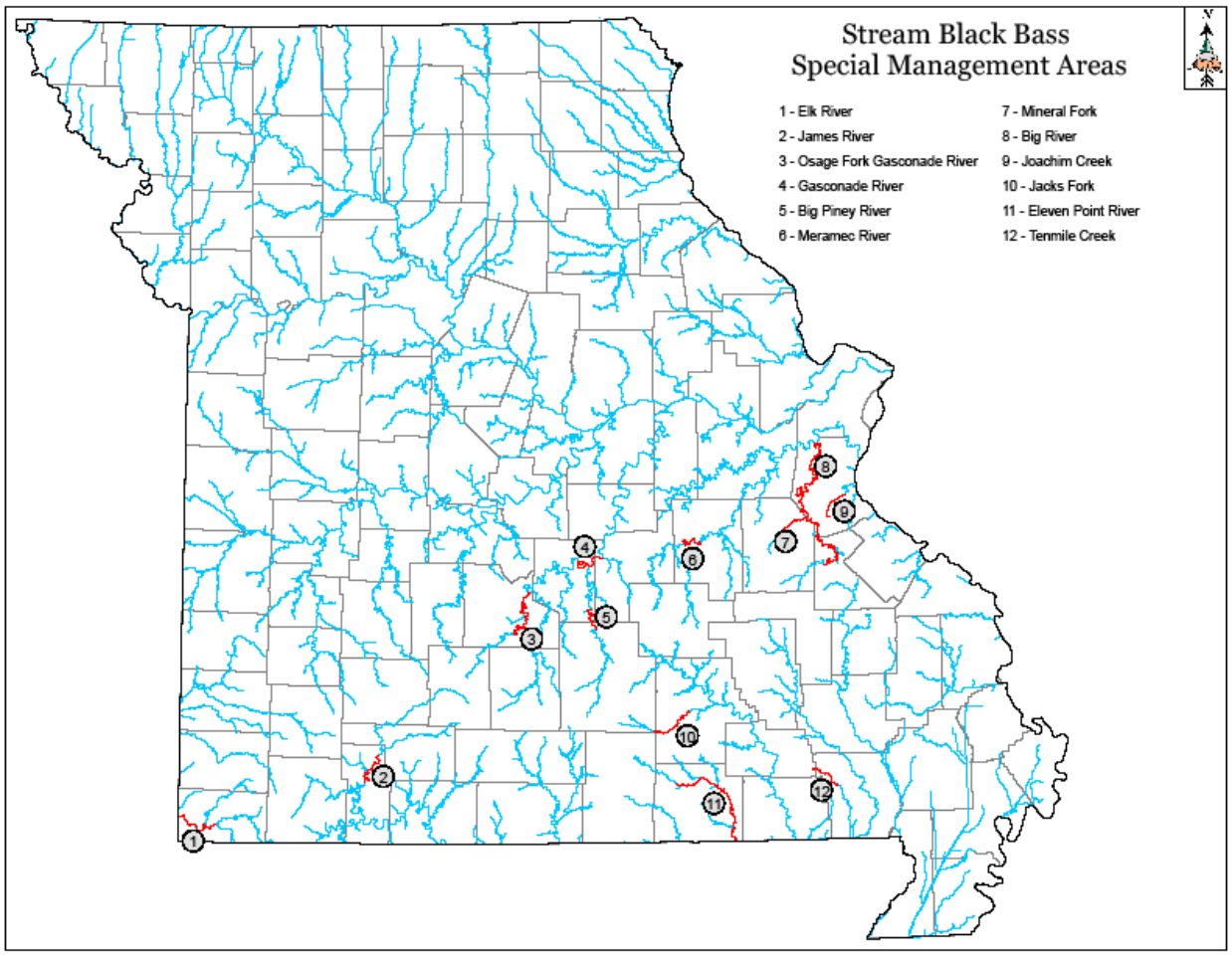

Figure 1. Missouri's Stream Black Bass Special Management Areas, 2009.

Criteria Rating

Total and individual criterion scores were generally higher for candidate streams which became SBBSMA (new SBBSMA streams) than those which did not (non-SBBSMA streams; Table 2). New SBBSMA streams total scores averaged 21 points out of a maximum of 30 points, with a range of 18–24 (Appendix 2). Elk River, Eleven Point River and Tenmile Creek were each rated highest with 24 points. All criteria were rated for 11 non-SBBSMA streams and their total scores averaged 18, with a range of 15 to 22 (Appendix 2).

Table 2. Average percent composition of black bass, electrofishing catch per hour (CPUE) and biologist ratings for criteria used to evaluate White Paper candidate streams.

	% Composition			CPUE			Biologist Ratings					
	SMB	LMB	SPB	SMB	LMB	SPB	Growth	Access	Use	Habitat	Support	Diversity
New SBBSMA Streams	77%	16%	7%	50.4	9.5	7.1	3.6	2.8	3.4	4.0	4.1	3.3
Non-SBBSMA Streams	57%	23%	20%	39.1	6.3	3.5	2.8	3.1	3.4	2.8	2.0	3.0

Biologists rated several criteria low (rating $\leq$ 2) for many non-SBBSMA streams; regulatory support (21%), habitat suitability (16%), access (12%) and geographic diversity (12%) were listed most often (Figure 2). Additionally, 16 non-SBBSMA streams received lower but incomplete total scores after determining some criteria rated so poorly, they were considered insurmountable impediments to SBBSMA establishment and their evaluations were suspended.

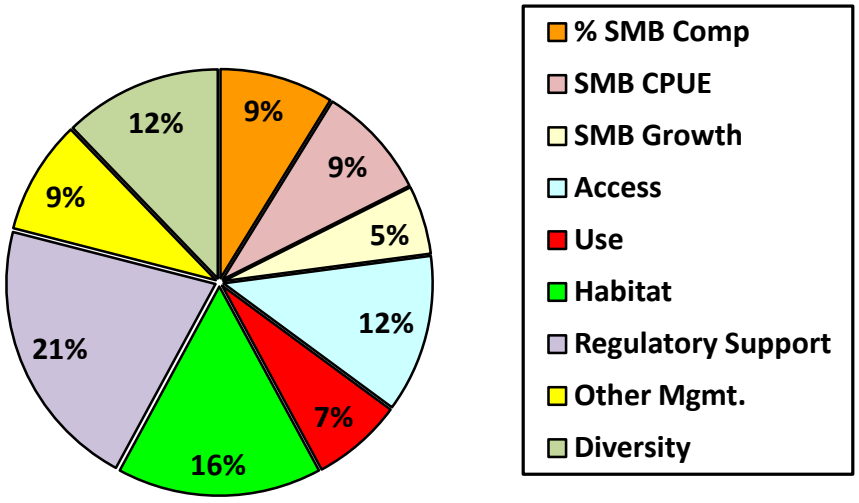

Figure 2. Percent occurrence of White Paper stream criteria contributing to elimination of candidate streams from becoming SBBSMA, as rated by MDC fisheries management biologists, 1996-2007.

Some non-SBBSMA streams criteria scored within the range of new SBBSMA streams, but were eliminated from SBBSMA consideration because of an over-riding issue. Two criteria (smallmouth bass habitat suitability and potential special regulation support) were listed most often (Figure 2). Of these, regulatory support from local anglers, judges, prosecutors and Protection Division may have been the most important because biologists rated it as poor (rating $\leq$ 2) for ten non-SBBSMA streams. New SBBSMA streams rarely had low scores for any criterion; however, access was listed most often (Appendix 2).

Criterion - Smallmouth bass CPUE

Smallmouth bass catch per unit effort (CPUE) data in new SBBSMA streams were found to be higher than in non-SBBSMA streams (Table 2). Catch per unit effort data were collected during 20 study evaluations and averaged 43.4/hr, 7.6/hr and 4.7/hr for stock-sized smallmouth, largemouth and spotted bass, respectively. Average smallmouth CPUE was almost 30% greater at new SBBSMA (50.4/hr) than non-SBBSMA streams (39.1/hr), despite Big River sections (19.3/hr and 22.7/hr) and Joachim Creek (20/hr) exhibiting catch rates below the non-SBBSMA average (Table 2). Low smallmouth bass CPUE was a primary factor in eliminating the following streams from SBBSMA consideration:

1. Gasconade River (Maries/Osage counties)
2. Meramec River (Franklin County)
3. Meramec River (St. Louis County)
4. Plattin Creek
5. Weaubleau Creek

Criterion #1 – Species composition

Smallmouth bass percent composition of black bass communities averaged 77% and 57% for new SBBSMA and non-SBBSMA streams, respectively (Table 2). Though smallmouth bass made up the majority of black bass in most study streams, 11 exhibited smallmouth composition of less than 50%, some as low as 3% (Osage River) and 10% (Tavern Creek). In addition, the new Big River SBBSMA (St. Francois County) was only 46%, but had historically been much higher. Largemouth bass made up the majority of the remaining black bass catch in new SBBSMA streams (except for Big River in St. Francois County), while spotted and largemouth bass were equally represented in non-SBBSMA stream averages. Low smallmouth bass percent composition of black bass catch was a primary factor in eliminating the following streams from SBBSMA consideration:

1. Cole Camp Creek
2. Glaize Creek
3. Meramec River (St. Louis County)
4. Osage River
5. Tavern Creek

Criterion #2 – Smallmouth bass growth rates

Growth rates were analyzed during 18 evaluations and fisheries biologists rated growth in new SBBSMA streams higher than non-SBBSMA streams (Table 2). Differences between new SBBSMA and non-SBBSMA streams were relatively minor for most age classes (Table 3).

Table 3. Smallmouth bass average length at age for Missouri smallmouth bass White Paper candidate streams and statewide averages.

	SMB Length @ Age									
	1	2	3	4	5	6	7	8	9	10
New SBBSMA Streams	4.8	6.8	9.0	11.2	13.1	14.6	15.6	16.6	16.7	17.5
Non-SBBSMA Streams	3.6	6.2	8.9	11.0	13.1	14.0	15.1	16.0	15.5	17.0
Statewide (Purkett 1958)	3.5	6.7	9.6	11.4	13.5	14.6	15.6	16.3	17.2	17.2

Despite 25% slower average growth during their first year, non-SBBSMA stream smallmouth bass grew at rates similar to new SBBSMA streams until age 6, when they generally grew one-half inch slower through age 10. Non-SBBSMA growth after age 6 was also slower than statewide averages reported by Purkett (1958). Smallmouth bass were greater than the statewide minimum length limit of 12 inches between age 4 and 5, while bass greater than the SBBSMA minimum length limit of 15 inches averaged seven years old. Slow smallmouth bass growth was cited as a primary contributor in eliminating the following streams from SBBSMA consideration:

1. Finley Creek
2. Niangua River
3. Shoal Creek

Criterion #3 – Access (landowner, public)

Access was rated during 27 evaluations and showed non-SBBSMA streams rated slightly higher than new SBBSMA streams (Table 2). Most study streams rated with poor access were smaller and could be viewed as having limited float fishing potential. Streams such as Big Creek, Cole Camp Creek and Plattin Creek might be more accurately described as wade fishing streams. Despite becoming SBBSMAs, Elk River, Joachim Creek and Mineral Fork were each rated below three for their relatively minimal public access. However, this limited access may actually provide for unique, high-quality angling opportunities through limited fishing pressure. Poor access was cited as a primary contributor in eliminating the following streams from SBBSMA consideration:

1. Big Creek

2. Cole Camp Creek
3. Flat Creek
4. Gravois Creek
5. Indian Creek
6. Niangua River
7. Plattin Creek
8. Saline Creek
9. Weaubleau Creek

Criterion #4 – Present use

Stream use was rated during 27 evaluations and had similar averages for SBBSMA and non-SBBSMA streams (Table 2). Elk and Gasconade River usages were rated highest, while Gravois Creek use was lowest (Appendix 2). Low stream use was cited as a primary contributor in eliminating the following streams from SBBSMA consideration:

1. Beaver Creek
2. Gravois Creek
3. Saline Creek
4. Weaubleau Creek

Criterion #5 – Habitat suitability

Smallmouth bass habitat was rated for 31 study streams. Four streams were rated as poor (rating = 1) and led to suspending further investigation. Poor smallmouth habitat was also a major concern at four additional streams where evaluations were more narrative. Extensive in-stream gravel mining and lack of permanent flow were primary reasons for poor habitat ratings of non-SBBSMA streams. The new Big River SBBSMA habitat in St. Francois County was rated a "2" due to impacts of past lead mining activity in some locations. However, existing work and future plans to remove this material would restore more appropriate habitat and improve the rating. Poor smallmouth bass habitat suitability was cited as a primary factor in eliminating the following streams from SBBSMA consideration:

1. Big Creek
2. Cole Camp Creek
3. Finley Creek
4. Flat Creek
5. Gasconade River (Maries/Osage counties)
6. Gravois Creek
7. Meramec River (St. Louis County)
8. Osage River
9. Weaubleau Creek

Criterion #6 – Regulatory Support

Regulatory support from local anglers, judges, prosecutors and Protection Division may have been the most significant criteria rated, as biologists rated it as poor (rating = 0 or 1) for ten non-SBBSMA streams. Most poor ratings were influenced by MDC perceptions of anglers' opinions and Protection Division's appreciation of local law enforcement challenges presented by county court systems. When poor regulatory support was encountered on study streams, biologists often suspended further investigation. Poor regulatory support was cited as a primary factor in eliminating the following streams from SBBSMA consideration:

1. Apple Creek
2. Black River
3. Castor River
4. Cole Camp Creek
5. Crooked Creek
6. Gasconade River (Maries/Osage counties)
7. River Aux Vases
8. Saline Creek
9. West Fork of Black River
10. Weaubleau Creek

Criterion #7 – Consideration of other species or management goals

Other management considerations impacted ten evaluations. Conservation of Niangua darters and blacknose shiners (both species of conservation concern) impacted evaluations in the Niangua River basin and Weaubleau Creek, respectively. Current evaluation of new Rock Bass SMAs contributed to removal of Huzzah Creek and Meramec River (Franklin County) from SBBSMA consideration. However, previous special regulations on Big River (spotted bass special management), Eleven Point River (no gigging and trout), Mineral Fork (spotted bass special management) and Osage Fork (rock bass special management) had been well-established prior to White Paper evaluations. Other management considerations were cited as a primary contributor in eliminating the following streams from SBBSMA consideration:

1. Huzzah Creek (on-going rock bass evaluation)
2. Little Niangua River (Species of Conservation Concern)
3. Meramec River (Franklin County; on-going rock bass evaluation)
4. Niangua River (Species of Conservation Concern and trout management area)
5. Weaubleau Creek (Species of Conservation Concern)

Criterion #8 – Diversity of opportunities, geographically
Geographic diversity of potential SBBSMAs was rated during 30 evaluations and was similar for non-SBBSMA and new SBBSMA stream averages (Table 2). However, the close proximity of Big River, Joachim Creek and Mineral Fork to the existing Big River SBBSMA lowered the new SBBSMA stream average. Poor geographic diversity was cited as a primary contributor in eliminating the following streams from SBBSMA consideration:

1. Finley Creek (James River SBBSMA)
2. Flat Creek (James River SBBSMA, Elk River SBBSMA)
3. Huzzah Creek (Meramec River SBBSMA)
4. Meramec River (Franklin County – Big River SBBSMA)
5. Meramec River (St. Louis County – Big River SBBSMA)
6. Niangua River (Osage Fork SBBSMA)
7. Plattin Creek (Joachim Creek SBBSMA)

DISCUSSION

Despite the accomplishments of the White Paper effort, some issues arose. In some cases, biologist subjectivity may have contributed to some variability when rating criteria such as access, use and geographic diversity. Most biologists regarded the most beneficial access rating as one with high degrees of public stream access. Without knowing angler preferences about level of angling pressure or taking into account stream size, more public access might not be viewed as more beneficial to some anglers or considering angling impacts on smallmouth bass near accesses. Perhaps, less public access on small streams may provide better quality fisheries for those who put forth the effort to secure permission to access them. Use may have been similarly rated by scoring existing high usage as more desirable than sparse use. Without set distances between existing and potential SBBSMAs or knowing angler preferences, geographic diversity ratings were subject to personal judgments.

During the evaluation processes, SMBWG members were asked for their thoughts regarding Missouri smallmouth bass management in streams and lakes. The majority felt the White Paper process met its objectives and addressed the most important stream resources. Special regulations were implemented where they are thought to provide the best benefits; however, special regulations were not deemed appropriate in all streams due to habitat, regulatory or other concerns or that existing regulations were already maximizing fishery potential.

Some fisheries biologists suggested smallmouth bass lake fisheries should either receive more attention or credit. Some felt MDC either needed to learn more about smallmouth bass lake fisheries or could do more to emphasize them. In doing so, perhaps additional high-quality smallmouth fisheries could be developed or promoted. Most SBBSMAs have implemented a

special 15" mll regulation, similar to the majority of large Missouri reservoirs. Lake smallmouth bass may benefit from these regulations, but somehow are not seen as special by some people. Perhaps these fisheries could be better promoted. The White Paper effort did not address lake fisheries.

Completion of the evaluation process eight years ahead of schedule occurred for a variety of reasons. Some biologists added candidate stream evaluations into their work plans quicker than anticipated, some well in advance of recommended dates. Staffing shortages present during construction of the White Paper were addressed, increasing the number of investigators. In addition, evaluations of some streams were less intense than others. Some biologists quickly encountered issues which were considered insurmountable (poor habitat or lack of support for special regulations) or the first criterion evaluated presented such poor results, continuing an evaluation seemed pointless.

SUMMARY

The effort outlined in the *Smallmouth Bass Special Management in Missouri Streams* (White Paper) was successful in identifying and studying many of Missouri's best smallmouth bass streams and evaluating their potential for management through special regulations. Over 25 biologists completed evaluations for 34 reaches in 32 candidate streams, eight years ahead of schedule (Appendix 1). The Pomme de Terre River is being re-evaluated. White Paper evaluations identified eight (23%) study reaches, totaling 249.3 miles, which would benefit from special management. SBBSMA regulations were then implemented on Big River (two extensions), Eleven Point River, Elk River, Joachim Creek, Mineral Fork, Osage Fork and Tenmile Creek.

In addition to identifying eight new SBBSMAs, the White Paper effort encouraged MDC to prioritize smallmouth bass management statewide. Staff included evaluations in annual work plans. Fisheries biologists, conservation agents and administrators became more aware of Missouri's smallmouth bass resources and their importance. Stream black bass populations, habitat, use and issues surrounding use of special regulations were discussed, evaluated and considered – all to the benefit of smallmouth bass management.

Missouri's SBBSMAs now total 358 miles of water on 12 streams (Figure 1). When Meramec River Basin spotted bass special regulations are included, the SBBSMA total jumps to 2,091 miles (Appendix 2). In addition, smallmouth bass populations in upper Big River, Pomme de Terre River and lower Salt River are currently being evaluated.

REFERENCES

Meneau, K.J. 1998. Smallmouth bass special management in Missouri streams. White paper. Missouri Department of Conservation. 8 pages.

Turner, B. et. al. 1991. Smallmouth bass sampling guidelines. Missouri Department of Conservation, Jefferson City, Missouri.

Appendix 1. List of candidate smallmouth bass study streams, 1995.

Stream	County	Evaluation Begins	Management Decision
Big River	Jefferson	1996	1998
Mineral Fork	Washington	1996	1998
Shoal Creek	Newton	1996	1998
Tenmile Creek	Butler	1996	1998
Osage Fork of the Gasconade River	Laclede	1996	1998
Niangua River	Dallas/Laclede/Camden	1997	1999
Eleven Point River	Oregon	1998	2000
Glaize Creek	Camden	1998	2001
Beaver Creek	Taney	1998	2001
Big River	St. Francois	1998	2001
Elk River	McDonald	1998	2001
Flat Creek	Barry/Stone	1998	2001
Little Niangua River	Camden	1998	2001
Osage River	Miller/Cole/Osage	1998	2001
Tavern Creek	Miller	1998	2001
Black River	Reynolds	1999	2001
Indian Creek	McDonald	1999	2001
Meramec River	St. Louis	1999	2001
Plattin Creek	Jefferson	1999	2001
Big Creek	Wayne/Iron	2000	2001
Gasconade River	Maries/Osage	1998	2003
Meramec River	Franklin	1998	2003
Huzzah Creek	Crawford	1998	2003
Cole Camp Creek	Benton	2000	2003
Joachim Creek	Jefferson	2000	2003
Weaubleau Creek	St. Clair	2000	2003
Saline Creek	Ste. Genevieve/Perry	2002	2003
West Fork of Black River	Reynolds	2002	2003
Pomme de Terre River	Hickory	2001	2004
Gravois Creek	Morgan	2001	2004
Castor River	Madison/Bollinger	2004	2006
Crooked Creek	Bollinger	2007	2008
Whitewater River	Bollinger/Cape Girardeau	2009	2011
River Aux Vases	Ste. Genevieve	2012	2013
Apple Creek	Perry/Cape Girardeau	2014	2015

Appendix 2. White Paper Candidate Stream evaluation criteria scores.

		Ratings	Biologist Ratings			Habitat	Regulation	Other	Geographic	SMA
Stream	County	Total	Growth	Access	Use	Suitability	Support	Mgmt.	Diversity	Decision
Apple Creek	Cape Girardeau/Perry	8				3	1		4	no
Beaver Creek	Taney	23	4	4	3	4	4		4	no
Big Creek	Iron/Wayne	17	3	1	3	2	4		4	no
Black River	Reynolds	18	3	4	4	4	0		3	no
Castor River	Bollinger/Madison	17	3	3	3	3	1		4	no
Cole Camp Creek	Benton	12		2	4	1	1		4	no
Crooked Creek	Bollinger	8				3	1		4	no
Finley Creek	Christian	15	2	3	3	2	3		2	no
Flat Creek	Barry/Stone	N/A								no
Gasconade River	Maries/Osage	2		4	5	2	1		2	no
Glaize Creek	Camden	N/A								no
Gravois Creek	Morgan	3		1	1	1				no
Huzzah Creek	Crawford	17	3	3	4	3	3	RBSMA, SPBSMA	1	no
Indian Creek	McDonald	21	3	2	4	4	5		3	no
Little Niangua River	Camden	N/A						SOCC		no
Meramec River	St. Louis	16	3	5	3	2	2	SPBSMA	1	no
Meramec River	Franklin	13		5	4	3		RBSMA, SPBSMA	1	no
Niangua River	Dallas/Laclede/Camden	19	2	4	4	4	4	SOCC,trout	1	no
Osage River	Cole/Miller/Oregon	13		4	4	1	2		2	no
Plattin Creek	Jefferson	15	3	1	3	3	2		3	no
Pomme de Terre River	Hickory	N/A								Re-eval
River Aux Vases	Ste. Genevieve	8				3	1		4	no
Saline Creek	Perry/Ste. Genevieve	13		2	2	4	1		4	no
Shoal Creek	Newton	20	2	4	4	4	3		3	no
Tavern Creek	Miller	N/A								no
W. Fork - Black River	Reynolds	15		4	4	4	0		3	no
Weaubleau Creek	St. Clair	10		2	2	1		SOCC	5	no
Whitewater River	Bollinger/Cape Girardeau	8				3	1		4	no
Big River	Jefferson	20	4	4	3	3	4	SBBSMA	2	yes
Big River	St. Francois	18	3	3	3	2	4	SPBSMA	3	yes
Eleven Point River	Oregon	24	4	3	4	5	4	No gigging, trout	4	yes
Elk River	McDonald	24	4	2	5	5	5		3	yes
Joachim Creek	Jefferson	18	3	1	3	4	4		3	yes
Mineral Fork	Washington	19	4	2	3	4	3	SPBSMA	3	yes
Osage Fork	Laclede	22	3	4	3	4	4	RBSMA	4	yes
Tenmile Creek	Butler	24	4	3	3	5	5		4	yes

Appendix 3. Missouri's Stream Black Bass Special Management Areas, 2009.

Stream	Miles	County/Area	Regulations
Big River	106	Jefferson, Washington, and St. Francois counties, from Leadwood Access to Meramec River	Smallmouth bass mll = 15", daily limit= 1; spotted bass (see Meramec River)
Big Piney River	15	Texas County, Slabtown to Ross Access	Smallmouth bass mll = 15", daily limit = 1
Eleven Point	50	Oregon County, Thomasville Access to Arkansas line	Smallmouth bass mll = 15", daily limit = 1
Elk River	22	MacDonald County, all of stream to the Kansas line	Black bass mll = 15", daily limit = 2
Gasconade River	20	Pulaski and Phelps counties, Hwy. Y to Hwy. D	Smallmouth bass mll = 18", daily limit = 1
Jacks Fork River	26	Shannon and Texas counties, Hwy. 17 to Hwy. 106	Smallmouth bass mll = 18", daily limit = 1
James River	22	Stone County, Hooten Town Bridge to Hwy. 13	Smallmouth and Largemouth bass mll = 15", daily limit = 1
Joachim Creek	18	Jefferson County, Hwy. V Bridge to Hwy. A Bridge	Smallmouth bass mll = 15", daily limit = 1
Meramec River	15	Crawford County, Scott's Ford to Bird's Nest Access	Smallmouth bass mll = 15", daily limit = 1, spotted bass (see below)
Meramec River and all tributaries	1733	Crawford, Dent, Franklin, Gasconade, Iron, Jefferson, Maries, Phelps, Ste. Genevieve, St. Francois, St. Louis, and Washington counties	Spotted bass no mll, daily limit = 12
Mineral Fork	14	Washington County, Hwy. F to Big River	Smallmouth bass mll = 15", daily limit = 1; spotted bass (see Meramec River)
Osage Fork of the Gasconade River	36	Laclede County, Skyline Drive Bridge to the Gasconade River	Smallmouth bass mll = 15", daily limit = 1
Tenmile Creek	14	Carter and Butler counties, Hwy. B to Cane Creek	Smallmouth bass mll = 15", daily limit = 1
Total	2073		